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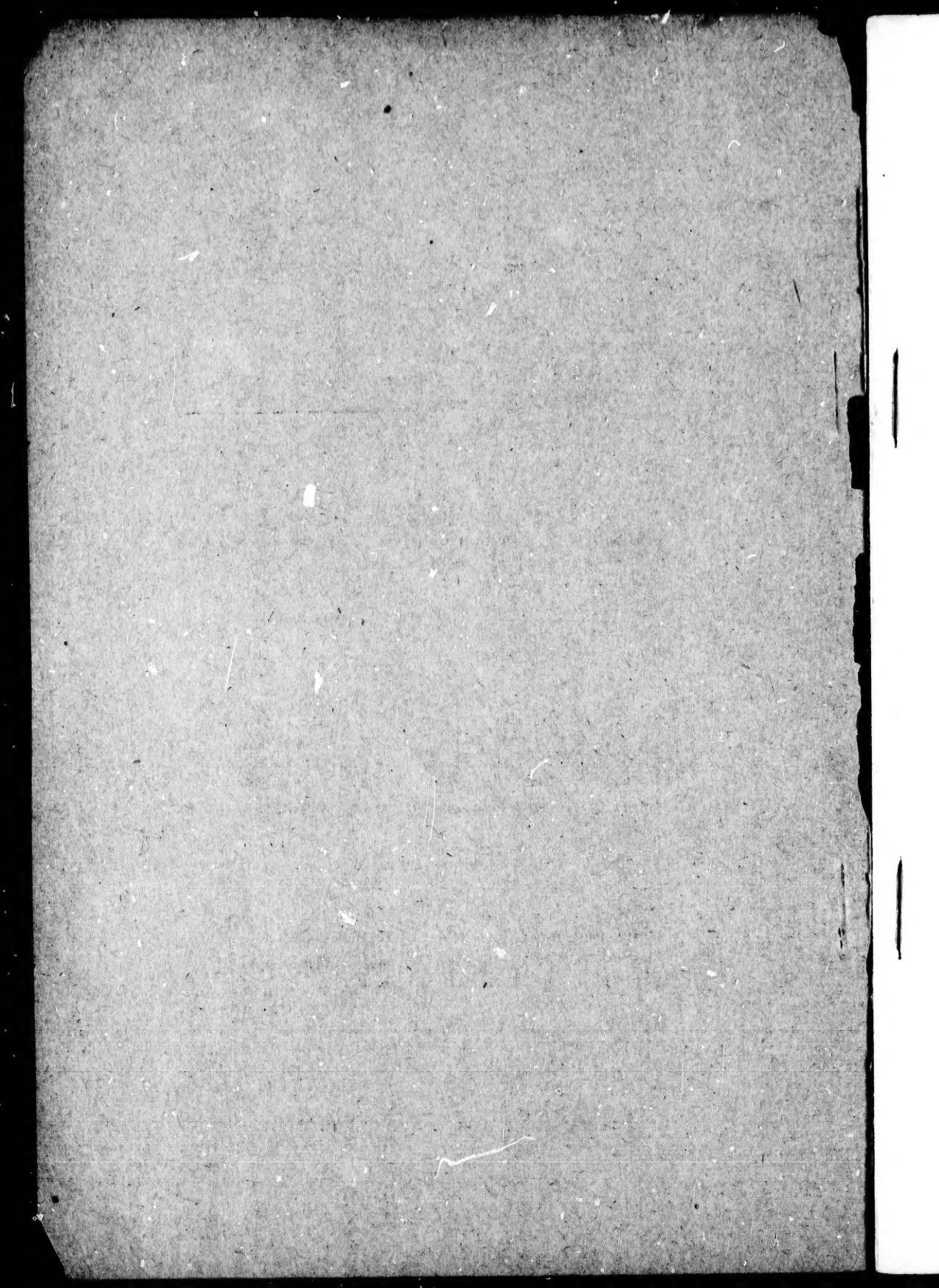
CONTRIBUTIONS TO CANADIAN BOTANY,

XVII

BY

JAMES M. MACOUN, Assistant Naturalist, Geological Survey of Canada.

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XVII.

Since the last of these papers was published a great many species have been added to the list of those known to occur in Canada ; the distribution of others has been greatly extended and a large number of notes worthy of publication have accumulated in our herbarium. Much of this material will be utilized in publications which will be issued from this Department at an early date but it is hoped to print from time to time in THE OTTAWA NATURALIST records that might not find a place elsewhere. Some of these records have appeared in other publications, but as these notes are intended primarily for Canadian workers not all of whom have access to current botanical literature, and in nearly every case new information as to distribution has been added, it has seemed best to make the record as complete as possible by including some matter that has been published elsewhere.

DICKSONIA PILOSIUSCULA, Willd.

In sandy woods, Courtland, Norfolk Co., Ont., 1901.
(John Macoun.) Rare in western Ontario.

ASPLENIUM RUTA-MURARIA, L.

On limestone rocks, north end of Manitoulin Island, Georgian Bay, Ont. Collected by Dr. Scott of Southampton, in 1901. New to Canada.

ADIANTUM PEDATUM, L., var. ALEUTICUM, Ruprecht.

A. pedatum, Cat. Can. Pl., II : 263 in part.

Represented in our herbarium by four sheets of specimens, all collected on Mt. Albert in the Shickshocks, Gaspé, Que. Two of these sheets were collected by Prof. John Macoun in 1882, and two by Messrs. Collins and Fernald in 1905.

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EQUISETUM LAEVIGATUM, Braun.

Roadsides at Windsor, Ont., 1902. No. 66,396, (*John Macoun*.) Not recorded from eastern Canada.

SPARGANIUM FLUCTUANS, (Morong) Robinson, Rhodora. VII: 60.
S. androcladum, var. *fluctuans*, Cat. Can. Pl., II: 70.

The only Canadian locality cited by Dr. Robinson is Lake Memphremagog, Que. Our specimens are from Campbellton, N.B., No. 28,052*, (*Chalmers*), Lake Mistassini, Que., No. 28,053, (*J. M. Macoun*) and Great Opeongo Lake, Algonquin Park, Ont., No. 22,562. (*John Macoun*). It was reported by J. M. Macoun from Severn River, Keewatin.

PANICUM PHILADELPHICUM, Bernh.

P. capillare, L., var. *flexile*, Gattinger.

P. flexile, (Gatt.) Scribner.

On sand, southern point of Pelee Point, Lake Erie, Ont., July 28, 1892. Referred at the time to *P. capillare*; by marshes, Sarabia, Ont., Herb. No. 26,332, and on Birch Island, Lake Huron, No. 26,331. (*John Macoun*.) Pelee Point, Lake Erie, Sept. 7th, 1905, growing among *Juniperus Virginiana*. (*A. B. Klugh*.)

TRISTETUM MELICOIDEUM, (Mx.) Vasey.

Grapphephorum melicoides, Cat. Can. Plants II: 228 in part.

Woodstock, N.B., No. 22,687; Madeline River, Gaspé, Que., No. 29,481. (*John Macoun*.) Aroostook River, N.B. (*Williams*, *Collins* and *Fernald*.) Ste. Anne des Monts River, Gaspé, Que. (*O. D. Allen*.)

TRISTETUM MELICOIDEUM, (Mx.) Vasey, var. COOLEYI, (Gr.)

Scribn., Rhodora, VIII: 87.

Grapphephorum melicoides, Cat. Can. Plants II: 228 in part.

Little Cascapedia River, Que. (*Collins*, *Fernald* and *Pease*.) River de Brig, Anticosti, Que., No. 29,479; Chelsea, Que., No. 61,297; Hastings Co., No. 29,482; Johnstone's Harbour, Lake Huron, Ont., No. 26,222. (*John Macoun*.) Galt, Ont. (*W. Herriot*.) Fishing Islands, Lake Huron, Ont. (*J. Bell*.)

*Specimens have been distributed from the herbarium of the Geological Survey under these numbers.

AVENA STRIATA, Michx. forma ALBICANS, Fernald, Rhodora, VII: 244.

A. striata, Cat. Can. Pl. II: 213 in part.

Distinguished from the species only by its pale, straw-colored glumes. Collected on Mount Albert, Gaspé, by John Macoun in 1882, No. 30,085. Described from specimens found at the same place and at Bic, Que., by Messrs. Fernald and Collins in 1904 and 1905.

BROMUS JAPONICUS, Thunb.

B. patulus, Mert. & Koch.

Collected at Toronto, Ont., by Mr. W. Scott and called *B. squarrosus* to which it is very similar. Mr. Scott's specimens differ from typical *B. japonicus* in their short-rayed panicles. Introduced. New to Canada.

SCIRPUS VALIDUS, Vahl.

S. lacustris, Cat. Can. Pl., II: 99 in part.

Sable Island, N.S., 22,633. (*Macoun.*) Campbellton, N.B., 32,359. (*R. Chalmers.*) Ottawa, Ont., 7,541; Chelsea, Que., 61,187; Niagara Falls, Ont., 34,583; Algonquin Park, Ont., 21,906; Lake Nipigon, Ont., 32,357. (*Macoun.*) Edmonton, Ont., 25,344. (*Jas. White.*) Grassy Narrows, Lake Winnipeg, 32,356. (*J. M. Macoun.*) Brandon, Man., 16,407; Sage Creek, Sask., 16,410; Cardston, Alta., 68,933; Cypress Hills, Alta., 16,409. (*Macoun.*) An abundant and widely distributed species not represented in our herbarium from west of Alberta.

SCIRPUS OCCIDENTALIS, (Watson) Chase, Rhodora, VI: 68.

S. lacustris, Cat. Can. Pl. II: 99 in part.

S. lacustris, var. *occidentalis*, Wat.; Cat. Can. Pl. II: 100.

Brackley Point, P.E.I., 32,360; Annapolis, N.S., 32,358; Grand Narrows, Cape Breton Island, N.S., 20,772; Sarnia, Ont., 34,582. (*Macoun.*) Toronto, Ont. (*W. Scott.*) Skull Creek, Crane Lake, Sask., 7,540; Prince Albert, Sask., 16,408; South Saskatchewan River, 32,361; Kananaskis, Rocky Mountains, 32,362. (*Macoun.*) Canoe River, head of Columbia River, Rocky Mts., 20,773. (*W. Spreadborough.*) Widely distributed in British Columbia but seldom collected.

S. occidentalis is distinguished from *S. validus* by achenes $\frac{1}{3}$ larger, by scales $\frac{1}{4}$ — $\frac{1}{3}$ longer than the achene and nearly twice as long as the scales of *S. validus*, viscid-pubescent, overlapping $\frac{1}{2}$ their length or more; by the cylindric more densely fruited spikelets in capitate clusters; and by the denser umbels and harder culms.

SCIRPUS HETEROCHÆTUS, Chase, Rhodora, VI : 70.

Distinguished from *S. validus* and *S. occidentalis* by the 3-cleft style, by the triquetrous achene, by the fragile bristles, fewer and shorter. An apparently rare species in the United States and not yet recorded from Canada. Mr. Ezra Brainerd found the three species growing in Lake Champlain where *S. occidentalis* begins to ripen seeds about six weeks later than *S. validus*; *S. heterochætus* flowers there at a date midway between the two.

RHYNCHOSPORA CAPILLACEA, Torr., var. LÆVISETA, Hill.

In bogs at Southampton, Ont., Aug. 20th, 1901, No. 34,573. (*John Macoun*.) Wet sand along the shore of Lake Huron at Oliphant, Ont. (*A. B. Klugh*.)

CAREX KATAHDINENSIS, Fernald, Rhodora, II : 171.

Collected by Prof. Ezra Brainerd at the "Grand Discharge" of Lake St. John, Que., Aug., 1901.

JUNCUS BUFONIUS, L. var. HALOPHILUS, Buch. & Fernald, Rhodora, VI : 39.

Mr. Fernald records this variety from Riviere du Loup, Que., New Carlisle, Que., Bonaventure River, Que., and from Tracadie Beach and beach near Summerside, Prince Edward Island. Our only herbarium specimens are from Grand Narrows, Cape Breton Island, N.S., 20,708, (*John Macoun*), and mouth of Dartmouth River, Gaspé Co., Que. (*Collins, Fernald and Pease*.)

ALLIUM RECURVATUM, Rydb.

Confounded with *A. cernuum* of the east. Differs from *A. cernuum* in the leaves, the more slender, ridged scape, the larger involucre and the more distinct midveins of the

perianth segments. In *A. cernuum* the leaves are almost flat and more or less keeled. In *A. recurvatum* there is no keel and the channel is rounded as well as the back. The leaves of *A. cernuum* are also much wider, the flowers are generally much paler in that species and the perianth segments have an indistinct midvein. *A. recurvatum* is common in the Rocky Mountains and British Columbia.

HABENARIA MACROPHYLLA, Goldie.

This species is much rarer than *H. orbiculata* with which in recent years it has been confounded. *H. orbiculata* ranges from the Atlantic to the Pacific and north to Alaska. *H. macrophylla* has not been found west of Wisconsin. Our specimens are from Newfoundland, 13,771, (*B. L. Robinson & H. Schrenk*), and Muskoka, Ont., 27,223. (*W. Spreadborough*.) Many specimens of both species have been examined by Mr. Oakes Ames; the spur of *H. orbiculata* was found to be from 16 to 27 mm. long, while that of *H. macrophylla* ranged from 32 to 43 mm. in length. The flowers of the latter species are also much larger.

SALIX CHLOROLEPIS, Fernald, *Rhodora*, VII: 186.

Meadows at the headwaters of Ruisseau au Diable, Mt. Albert, Gaspé, Que. (*Collins and Fernald*.)

SALIX MACROSTACHYA, Nutt.

Along the Kettle River at Cascade, B.C. In flower, June 26th, 1902, No. 68,128. (*J. M. Macoun*). New to Canada.

SALIX SERISSIMA, (Bailey) Fernald, *Rhodora*, VI: 6.

S. lucida, Cat. Can. Pl. II: 450 in part.

Mr. Fernald gives no other Canadian localities for this species than "north shore of Lake Superior." Our herbarium specimens are from the mouth of Albany River, James Bay, Hudson Bay, No. 62,628. (*W. Spreadborough*); Salt Lake, Anticosti, Que., No. 24,584. (*John Macoun*); Galt, Ont., No. 63,120. (*W. Herriot*); Nipigon, Lake Superior, Ont., No. 24,583. (*John Macoun*); Severn River, Keewatin, No. 2,028, Beren's River, Man., No. 24,618, and Muskeg Island, Lak-

Winnipeg, Man., No. 24,619. (*Jas. M. Macoun*); Grattan Creek west of Battle River, Alta.; Edmonton, Alta., No. 24,621, and Bow River at Morley, Alta., No. 24,620. (*John Macoun*).

SALIX LUCIDA, Muhl., var. *INTONSA*, Fernald, *Rhodora*, VI : 11.

Recorded by Mr. Fernald from St. John River and tributaries, Maine, Quebec, and New Brunswick. Our specimens are from Montmorency Falls, Que., Nos. 68,782 and 68,783. (*John Macoun*.)

SALIX LUCIDA, Muhl., var. *ANGUSTIFOLIA*, Anderson.

Grand Lake, N.B., No. 24,586. (*John Brittain*); bank of Exploit River, Newfoundland, No. 13,674. (*Robinson & Schenk*.)

HUMULUS JAPONICUS, Sieb. & Zucc.

In waste places at Wakefield, Que., 1903. (*John Macoun*.) Naturalized.

COMANDRA RICHARDSIANA, Fernald, *Rhodora*, VII : 32.

C. umbellata, Nutt., in part.

So far as shown by our specimens *C. umbellata* does not occur in Canada, everything so called being the recently described *C. Richardsiana*.

POLYGONUM NUTTALLII, Small.

P. intermedium, Macoun, Cat. Can. Plants, II : 352.

Grassy banks, Middle Creek, Chilliwack River, B.C., No. 54,740. (*J. M. Macoun*.) Not recorded from mainland of B.C.

POLYGONUM PUNCTATUM, Ell., var. *LEPTOSTACHYON*, (Meisn.) Small.

Low ground near Sumas Lake, B.C. No. 54,752. (*J. M. Macoun*.) New to Canada. Abundant, but perhaps introduced.

POLYGONUM BISTORTOIDES, Pursh.

A common species at an altitude of between 5,000 and 6,000 feet on mountains in the Chilliwack and Skagit valleys, B.C., near the International Boundary. (*J.M. Macoun*.)

CHENOPODIUM BOSCIANUM, Moq.

Sandy thickets, Pelee Point, Lake Erie. No. 54,724.
(John Macoun.) New to Canada.

AQUILEGIA COLUMBIANA, Rydb., Bull. Torr. Bot. Club, xxix : 145.

This species is somewhat intermediate between *A. formosa* and *A. truncata* and has been mistaken for both. It has the habit, spur and sepals of the former and the short truncate lamina of the latter. From Banff to Alaska.

DELPHINIUM BROWNII, Rydb., Bull. Torr. Bot. Club, xxix : 148.

This is most nearly related to *D. glaucum* but differs in the puberulent leaves with narrow segments, the lax raceme with more erect pedicels and the darker flowers. Described from specimens collected at Banff in 1893 by Addison Brown. A common plant in that region.

RANUNCULUS ALLENI, Robinson, Rhodora, vii : 220.

R. affinis var. *leiocarpus*, Cat. Can. Pl. 1 : 18.

First collected by Mr. J. A. Allen on Mt. Albert, Gaspé, Que., in 1881, the next year by John Macoun at the same place, No. 1,015, and in 1883 on Table Top Mountain not far from Mt. Albert by James Porter, No. 68,678. Other localities cited by Dr. Robinson are: Okkak, Labrador, and Rama, Labrador.

RANUNCULUS GLABERRIMUS, Hook.

Penticton, Lake Okanagan, B.C., April 12th, 1903. No. 59,519. (*W. Spreadborough*.) Not recorded from that region.

RANUNCULUS YUKONENSIS, Britt.

Near Peace River Landing, Atha., No. 59,521, June 8th, 1903. (*J. M. Macoun*.) Recorded before only from the Yukon district.

CAULOPHYLLUM THALICTROIDES, Mx.

In woods along the Assiniboine River near Portage La Prairie, Man. In flower, May 31st, 1906. (*W. Herriot*.) Western limit in Canada.

LEPIDIUM DRABA, L.

Waste places at Trail, Columbia River, B.C. No. 67,986.
(*J. M. Macoun.*) Not recorded from B.C.

LEPIDIUM SPINOSUM, L.

Near the "ball grounds," Toronto, Ont., 1904. (*W. Scott*) New to Canada. A native of the Orient and of Greece.

SISYMBRIUM OFFICINALE, Scop.

Rare in Canada, our specimens being from Niagara, Ont., No. 33,859. (*John Macoun*); Wingham, Ont., No. 2,110 (*J. A. Morton*), and Esquimaux, Vancouver Island, B.C., No. 2,109. (*John Macoun*). The inflorescence and pods, even at full maturity, subtomentulose.

SISYMBRIUM OFFICINALE, Scop. var. LEIOCARPUM, DC.

This variety as pointed out by Dr. Robinson (*Rhodora*, vol. VII: 102) is the common form in North America being represented in our herbarium by specimens from Baddeck, Cape Breton Island, N.S., No. 18,039, (*John Macoun*); Ottawa, Ont., No. 2,113, (*John Macoun*); Wakefield, Que., No. 59,813, (*John Macoun*); Belleville, Ont., No. 2,114, (*John Macoun*); Nelson, Kootenay Lake, B.C., No. 2,111, (*John Macoun*); Sicamous, B.C., No. 2,112, (*John Macoun*); Nanaimo, Vancouver Island, B.C., No. 2,115, (*John Macoun*); Chilliwack River, B.C., No. 33,860. (*J. M. Macoun*). The inflorescence nearly smooth; the pods entirely glabrous or with a few scattered hairs.

RADICULA CLAVATA, (Rydb.) Bull. Torr. Bot. Club., xxix: 235.
Nasturtium palustre, DC. var., Macoun, Cat. Can. Plants, II: 300 in part.

Port Henry and Agassiz, B.C., 1889. (*John Macoun.*)

DENTARIA TENELLA, Push.

Harrison, B.C., 1902. No. 63,504. (*W. Spreadborough.*)
Eastern limit in Canada.

DRABA McCALLIE, Bull. Torr. Bot. Club, XXIX: 241.

Moose Mountain, Elbow River, Alta., No. 18,139, 1897;
Summit of Pipestone Pass, Rocky Mt. Park, No. 64,412,
1904. (*John Macoun*) Described from specimens collected
by Mr. W. C. McCallie at Banff in 1899. This species belongs
to the *D. incana* group but differs from that species in the
elongated peduncle, long pedicels, short pubescent pod and
large petals.

ARABIS COLLINSII, Fernald, Rhodora, VII: 32.

"Quickly distinguished from *A. Holboellii* by the loose
hispidulous pubescence of the stem and pedicels, the smaller
flowers and the very slender acutish pods." Collected on dry
limestone conglomerate ledges, headland in the harbour of
Bic, Rimouski Co., Que., July 18, 1904 (*J. F. Collins &*
M. L. Fernald.)

DROSERA ROTUNDIFOLIA, L. var. COMOSA, Fernald, Rhodora, VII: 9.

A dwarf variety of the common sundew with crimson or
roseate instead of white flowers; the petals are sometimes
foliaceous and the carpels are developed in maturity into
green, glandular broadly obovate or oblate petioled leaves.
Collected in abundance near the mouth of Grand River, Gaspé
Co., Quebec, in 1904 by Messrs. J. F. Collins, M. L. Fernald
and A. A. Pease. An examination of a large series of speci-
mens of *D. rotundifolia* in our herbarium shows nothing
approaching this variety.

SAXIFRAGA HIERACIFOLIA, Walldt. and Kit.

Pond's Inlet, Lat. $72^{\circ} 45'$, Cockburn Island. Aug. 20th,
1904. (*Dr. L. E. Borden.*)